ABSTRACT

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Title of Thesis **The influence on production of secondary metabolits in tissue culture Hypericum perforatum (L.)**

Using of precursors is one of the biotechnological methods, where precursors are added to the culture medium. Callus and suspensions cultures of Hypericum perforatum L. were used. Fenylalanin and cinnamoyl acid in concentrations 20,0 g/l, 2,0 g/l and 0,2 g/l, resp. 25,0 g/l, 2,5 g/l and 0,25 g/l were used as precursors. The effect of precursors on the production of flavonoids was evaluated after 4, 24 and 168 hours. Cultures were cultivated on Murashige and Skoog medium with addition 2 mg/ml growthing hormon BAP. HPLC method for analysis was used. Generally, the highest increase of flavonoids was made by precursor fenylalanin in concentration B in callus and suspensions cultures. The top in production of quercitrin was detected in suspension cultures after application fenylalanin in concentration C after 168 hours cultivation (from 0,16 % to 0,22 %). Hyperosid was the most increased by fenylalanin in concentration C after 4 hours cultivation (from 0,24 % to 0,35 %). Cinnamoyl acid as precursor is not suitable for increase flavnonoids in culture of H. perforatum.Následuje překlad abstraktu práce do anglického jazyka